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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/273,957	03/22/1999	HUAMING WANG	GC477C1	7787

7590

05/21/2002

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EXAMINER

WALICKA, MALGORZATA A

ART UNIT	PAPER NUMBER
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1652

DATE MAILED: 05/21/2002

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/273,957

Applicant(s)

WANG ET AL.

Examiner

Malgorzata A. Walicka

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-14 and 59-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-11 and 59-65 is/are rejected.
- 7) ☒ Claim(s) 12-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

The examiner acknowledges the Amendment, paper No. 16, filed on March 29, 2002. The amendments to the specification and claims have been entered as requested. Claims 3, 6-7, 15-17, 57 and 58 are cancelled without prejudice. New claims 64 and 65 are entered. Claims 10, 11, 12, 13 and 14 are amended. Claims 8-14 and 59-65 are the subject of this Office Action.

Detailed Office Action

1. Objections

Objections to the specification and Fig. 3 made in the previous Office Action, paper No. 13 have been withdrawn in the view of Applicants response.

Objections to claims 12-14 have not been withdrawn. The phrase "optimum of from 6 to 7.5, inclusive" should be changed to "optimum of 6 to 7.5, inclusive."

New claims 64 and 65 are objected to under 37CFR §1.75(d)(1) as being in improper form because the claim states an improper Markush group. Compounds included within a Markush group must "(1) share a common utility and (2) share a substantial structural feature disclosed as being essential to that utility." (See MPEP § 803.02). While the structures recited in claim 64 and 65 may share the common utility of being substrates for the phenol oxidizing enzymes of the invention, the specification does not disclose that the compounds share a substantial structural feature disclosed as being essential to that utility. Because a substantial structural feature is not disclosed as being essential to the utility that is common to the claimed species, the claim states an improper Markush group.

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2. Rejections

2.1. 35 USC section 112, second paragraph

Claims 10-14 were rejected in the previous Office Action for containing an indefinite phrase "the color associated with a dye or colored compound." Claims 10-14 are amended. In the light of the amendments the rejection of claims 12-14 is withdrawn. Applicants arguments concerning claims 10-11 have been fully considered, but are not found persuasive. Applicants argue that they defined the term "colored compounds" by giving the list of hundreds of colored compounds that are listed in the Dictionary of Fiber and Textile Technology and Colour Index 3rd edition; some of these compounds were used in examples. The specification teaches that the disclosed enzymes act as oxidases with a broad specificity, which includes also phenolic compounds as substrates. The definition of the claimed enzymes, page 1, line 18, contains the following phrases "transfer of electrons from an electron donor... to molecular oxygen...which is reduced to H₂O". These phrases define an oxidase. Thus, although the applicants do not use the generic term oxidase as the name of the claimed enzymes, this generic term describes the broad specificity of the claimed enzymes. Examiner suggests changing the name of the invention from "phenol oxidizing enzyme" to "oxidase".

Claims 10-11 are still rejected for reciting the phrase "the color associated with a dye or colored compound" because the phrase, together with the term "phenol oxidizing enzyme", renders the claims indefinite. Currently, neither the claims nor the specification define specifically "colored compounds" as phenolic compounds.

2.2. 35 USC section 112, first paragraph

2.2.1. Rejections for lack of written description

Claims 3, 6, and 7-9, 10-14, 15-17 and 57 were rejected in the previous Office Action. Currently pending claims 8 and 9 are still rejected because Applicants did not respond to the rejection made in the previous Office action, paper No. 13. The claims still do not specify the species of the phenol oxidizing enzyme toward which they are directed.

Although claims 10 and 11 have been amended they are still directed to an extremely large genus of colored compounds catalogued in Colour Index. Applicants argue that they described the term colored compound sufficiently, and teach that the phenol oxidizing enzymes of the invention are capable of oxidizing a wide variety of dyes and colored compounds having different chemical structure. Applicants' arguments were thoroughly considered, but they have been found unpersuasive. Claims 10-11 still recite an extremely large genus of colored compounds and Applicant did not show that the claimed enzymes act on all these compounds.

The rejections of claims 8, 9 and 59-63 for lack of enabling biologic deposit has been withdrawn because of the Applicants' statement that the deposited strains will be irrevocably and without restriction released to the public upon the issuance of a patent in this application.

2.2.2. Rejection for scope of enablement

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Claims 3, 6, and 7-9, 10-14 were rejected in the previous Office Action, paper No. 13, because the specification provides enablement for several dyes, but not all collected in Colour Index, 3rd ed., Vol. 1-8. Applicants argue that the phenol oxidizing enzymes of the invention catalyze redox reactions and are capable of using a wide variety of phenolic compounds as electron donors. Applicants' arguments were fully considered. However, the amended claims 10-11 are still rejected under 35 U.S.C. 112, first paragraph for the reasons set forth in the prior Office Action, paper No. 13. They are still directed to an extremely large genus of colored compounds catalogued in Colour Index. Applicants argue that they described the term colored compound sufficiently, and teach that the phenol oxidizing enzymes of the invention are capable of oxidizing a wide variety of dyes and colored compounds having different chemical structure. Applicants' arguments are fully considered, but they are deemed unpersuasive. Claims 10-11 still recite an extremely large genus of colored compounds that do not contain a phenolic group, and Applicant did not show that the claimed enzymes act on all these compounds.

2. 3. Double patenting

Nonstatutory provisional double patenting rejections of claims 15-17 and 57 are moot because the claims have been cancelled. However, the Applicants did not cancel claim 59 that is directed to the enzyme having the amino acid sequence shown in SEQ ID NO: 2. Claim 59 is still provisionally rejected over claims 1, 2, and 3 of the application No. 09/218,702.

Statutory provisional double patenting rejection of claim 16 as depending on claim 3 is withdrawn because claim 3 and 16 have been cancelled.

2. Conclusion

As indicated in the previous Office Action, paper No.13, the instant application contains an allowable subject matter. The examiner suggests change of the claim language from "phenol oxidizing enzyme" to "oxidase."

Claim 12-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Malgorzata A. Walicka, Ph.D., whose telephone number

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is (703) 305-7270. The examiner can normally be reached Monday-Friday from 10:00 a.m. to 4:30 p.m.

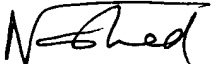
If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapura Achutamurthy, Ph.D. can be reached on (703) 308-3804. The fax phone number for this Group is (703) 305-3014.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionists whose telephone number is (703) 308-0196.

Malgorzata A. Walicka, Ph.D.

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Assistant Patent Examiner


NASHAAT T. NASHED PH.D.
PRIMARY EXAMINER